

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000105**Date Inspected:** 19-Mar-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Huang Wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** N/A**Summary of Items Observed:**

The CALTRANS Quality Assurance (QA) Inspector, Alfredo Acuna was present at Zhenhua Port Machinery Company (ZPMC) on Changxing Island, Shanghai, China to observe weld procedure qualification (PQR) tests, mechanical testing and welder qualifications for the San Francisco Oakland Bay Bridge (SFOBB) Self-Anchored Suspension Span (SAS).

Welding Qualification HP 200746-1

ZPMC, welder operator Zhan Xing Jin was observed by the QA Inspector performing welding operations following the preliminary welding procedure specification PWPS-B-T-2221-F-4 for the PQR identified as HP200746-1. Base metal was designated as A-709-50F-2(Heat # 6W24396402) and appeared to meet the fracture critical impact test requirement. The root opening of the joint was approximately 16 mm. ZPMC followed AWS 5.13 the production procedure WPS using the automatic submerged arc welding (SAW) process in the flat (1G) position with the 4.8 mm diameter LA-85 Lincoln electrode. The QA Inspector verified amperages, voltages, travel speeds, preheat and heat interpass temperatures. The QA inspectors recorded welding parameters for a total of 2 passes. The QA inspectors observed that the welding parameters taken by ZPMC QA inspector Hu Gang and Huang Wei appeared to be accurate and in accordance with the contract documents. However, the weld profile on the second root pass had approximately 125 mm of weld undercut and overlap. Mr. Hu relayed to the QA inspector that ZPMC decided to reject the test coupon. The PQR HP200746-1 was rejected by ZPMC on this date.

Welding Qualification HP 200746-2

The QA Inspector was present for the retesting of the PQR HP200746-2 (second attempt) scheduled for this project. ZPMC, welder operator Zhan Xing Jin was observed by the QA Inspector performing welding operations

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following the preliminary welding procedure specification PWPS-B-T-2221-F-4 for the PQR identified as HP200746-2. Base metal was designated as A-709-50F-2(Heat # 6W24396402) and appeared to meet the fracture critical impact test requirement. The root opening of the joint was approximately 16 mm. ZPMC followed AWS 5.13 the production procedure WPS using the automatic submerged arc welding (SAW) process in the flat (1G) position with the 4.8 mm diameter LA-85 Lincoln electrode. The QA Inspector verified amperages, voltages, travel speeds, preheat and heat interpass temperatures. The QA inspectors recorded welding parameters for a total of 16 passes. The QA inspectors observed that the welding parameters taken by ZPMC QA inspector Hu Gang and Huang Wei appeared to be accurate and in accordance with the contract documents. The QA inspector performed final visual inspection to the test coupon after completion. The QA inspector observed that welds appeared to be in general compliance with the contract documents. ZPMC QC (CWI) Huang Wei witnessed the testing and performed visual weld inspection. The PQR HP200746-2 was completed on this date. The QA inspector assigned the lot # B71-015-007 to this PQR.

Summary of Conversations:

As noted above on paragraph # 2.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Acuna,Alfredo	Quality Assurance Inspector
Reviewed By:	McClary,David	QA Reviewer
